

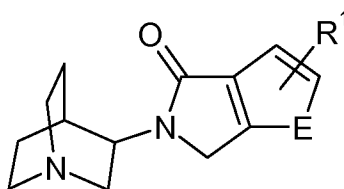
Listing of Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application.

WHAT IS CLAIMED IS:

1-2.(canceled)

3.(currently amended) A compound according to claim 1, in accord with formula II:



II

wherein:

E represents or CH₂, NH, O or S;

R¹ is selected from hydrogen, halogen or a substituted or unsubstituted 5- or 6-membered aromatic or heteroaromatic ring having 0, 1 or 2 nitrogen atoms, 0 or 1 oxygen atoms, and 0 or 1 sulfur atoms, or selected from a substituted or unsubstituted 8-, 9- or 10-membered fused aromatic or heteroaromatic ring system having 0, 1, 2 or 3 nitrogen atoms, 0 or 1 oxygen atoms, and 0 or 1 sulfur atoms, said aromatic or heteroaromatic rings or ring systems, when substituted, having substituents selected from -C₁-C₆alkyl, -C₃-C₆cycloalkyl, -C₁-C₆alkoxy, -C₂-C₆alkenyl, -C₂-C₆alkynyl, halogen, -CN, -NO₂, -CF₃, -S(O)_mR² wherein m is 0, 1 or 2, -NR²R³, -NR²(CO)R³, -CH₂NR²R³, OR², -CH₂OR², -C(O)NR²R³, or -CO₂R⁴;

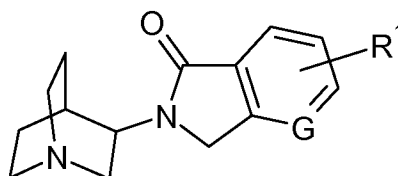
R² and R³ are independently selected at each occurrence from hydrogen, -C₁-C₄alkyl, -C₁-C₄alkoxy, -C₃-C₆cycloalkyl, aryl, heteroaryl, -C(O)R⁴, -CO₂R⁴ or -SO₂R⁴, or

R² and R³ in combination is -(CH₂)_jG(CH₂)_k- or -G(CH₂)_jG- wherein G is oxygen, sulfur, NR⁴, or a bond, j is 0, 1, 2, 3 or 4 and k is 0, 1, 2, 3 or 4, and

R⁴ is independently selected at each occurrence from hydrogen, -C₁-C₄alkyl, aryl, or heteroaryl;

or a stereoisomer, enantiomer, *in vivo*-hydrolysable precursor or pharmaceutically-acceptable salt thereof.

4.(Currently amended.) A compound ~~according to claim 2,~~ in accord with formula III:



III

wherein:

G represents CH or N;

R¹ is selected from ~~hydrogen~~, halogen or a substituted or unsubstituted 5- or 6-membered aromatic or heteroaromatic ring having 0, 1 or 2 nitrogen atoms, 0 or 1 oxygen atoms, and 0 or 1 sulfur atoms, or selected from a substituted or unsubstituted 8-, 9- or 10-membered fused aromatic or heteroaromatic ring system having 0, 1, 2 or 3 nitrogen atoms, 0 or 1 oxygen atoms, and 0 or 1 sulfur atoms, said aromatic or heteroaromatic rings or ring systems, when substituted, having substituents selected from -C₁-C₆alkyl, -C₃-C₆cycloalkyl, -C₁-C₆alkoxy, -C₂-C₆alkenyl, -C₂-C₆alkynyl, halogen, -CN, -NO₂, -CF₃, -S(O)_mR² wherein m is 0, 1 or 2, -NR²R³, -NR²(CO)R³, -CH₂NR²R³, OR², -CH₂OR², -C(O)NR²R³, or -CO₂R⁴;

R² and R³ are independently selected at each occurrence from hydrogen, -C₁-C₄alkyl, -C₁-C₄alkoxy, -C₃-C₆cycloalkyl, aryl, heteroaryl, -C(O)R⁴, -CO₂R⁴ or -SO₂R⁴, or

R² and R³ in combination is -(CH₂)_jG(CH₂)_k- or -G(CH₂)_jG- wherein G is oxygen, sulfur, NR⁴, or a bond, j is 0, 1, 2, 3 or 4 and k is 0, 1, 2, 3 or 4, and

R⁴ is independently selected at each occurrence from hydrogen, -C₁-C₄alkyl, aryl, or heteroaryl;

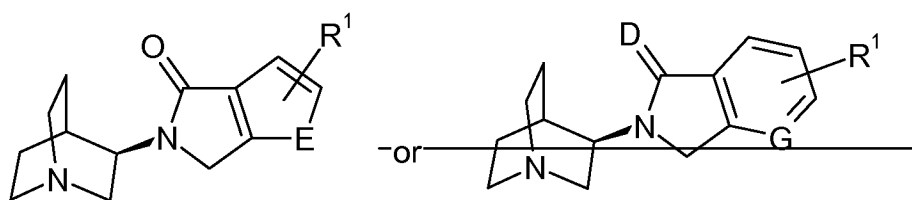
or a stereoisomer, enantiomer, *in vivo*-hydrolysable precursor or pharmaceutically-acceptable salt thereof.

5.(previously presented) A compound according to claim 3, wherein,

R^1 is selected from hydrogen, halogen and substituted or unsubstituted phenyl, pyridyl, quinolinyl, piperazinyl or morpholinyl, said phenyl, pyridyl, quinolinyl, piperazinyl or morpholinyl, when substituted, having substituents selected from $-C_1-C_6$ alkyl, $-C_3-C_6$ cycloalkyl, $-C_1-C_6$ alkoxy, $-C_2-C_6$ alkenyl, $-C_2-C_6$ alkynyl, halogen, $-CN$, $-NO_2$, $-CF_3$, $-S(O)_mR^2$ wherein m is 0, 1 or 2, $-NR^2R^3$, $-CH_2NR^2R^3$, $-OR^2$, $-CH_2OR^2$ or $-CO_2R^4$.

6.(original) A compound according to claim [[2]]3, wherein:

said compound is an R-stereoisomer in accord with formula IV ~~or V~~,



IV

[[V]], or a pharmaceutically-

acceptable salt thereof.

7.(currently amended) A compound selected from:

- 2-(R)-1-Aza-bicyclo[2.2.2]oct-3-yl-6-phenyl-2,3-dihydro-isoindol-1-one;
- 2-(R)-1-Aza-bicyclo[2.2.2]oct-3-yl-5-(4-methyl-piperazin-1-yl)-2,3-dihydro-isoindol-1-one;
- 5-(R)-1-Aza-bicyclo[2.2.2]oct-3-yl-2-phenyl-5,6-dihydro-furo[2,3-c]pyrrol-4-one;
- 2-(R)-1-Aza-bicyclo[2.2.2]oct-3-yl-6-bromo-2,3-dihydro-isoindol-1-one;
- 2-(R)-1-Aza-bicyclo[2.2.2]oct-3-yl-6-pyridin-3-yl-2,3-dihydro-isoindol-1-one;
- 2-(R)-1-Aza-bicyclo[2.2.2]oct-3-yl-6-pyridin-4-yl-2,3-dihydro-isoindol-1-one;
- 2-(R)-1-Aza-bicyclo[2.2.2]oct-3-yl-5-bromo-2,3-dihydro-isoindol-1-one;
- 2-(R)-1-Aza-bicyclo[2.2.2]oct-3-yl-5-phenyl-2,3-dihydro-isoindol-1-one;
- 2-(R)-1-Aza-bicyclo[2.2.2]oct-3-yl-5-pyridin-3-yl-2,3-dihydro-isoindol-1-one;
- 2-(R)-1-Aza-bicyclo[2.2.2]oct-3-yl-5-pyridin-4-yl-2,3-dihydro-isoindol-1-one;
- 2-(R)-1-Aza-bicyclo[2.2.2]oct-3-yl-4-bromo-2,3-dihydro-isoindol-1-one;
- 2-(R)-1-Aza-bicyclo[2.2.2]oct-3-yl-4-phenyl-2,3-dihydro-isoindol-1-one;
- 2-(R)-1-Aza-bicyclo[2.2.2]oct-3-yl-4-pyridin-3-yl-2,3-dihydro-isoindol-1-one;

2-(R)-1-Aza-bicyclo[2.2.2]oct-3-yl-4-pyridin-4-yl-2,3-dihydro-isoindol-1-one;
 2-(R)-1-Aza-bicyclo[2.2.2]oct-3-yl-7-bromo-2,3-dihydro-isoindol-1-one;
 2-(R)-1-Aza-bicyclo[2.2.2]oct-3-yl-7-phenyl-2,3-dihydro-isoindol-1-one;
 2-(R)-1-Aza-bicyclo[2.2.2]oct-3-yl-7-pyridin-3-yl-2,3-dihydro-isoindol-1-one;
 2-(R)-1-Aza-bicyclo[2.2.2]oct-3-yl-7-pyridin-4-yl-2,3-dihydro-isoindol-1-one;
 (R)-2-(1-Aza-bicyclo[2.2.2]oct-3-yl)-2,3-dihydro-isoindol-1-one;
 2-(R)-1-Aza-bicyclo[2.2.2]oct-3-yl-5-(4-methyl-piperazin-1-yl)-2,3-dihydro-isoindol-1-one;
 2-(R)-1-Aza-bicyclo[2.2.2]oct-3-yl-5-morpholin-4-yl-2,3-dihydro-isoindol-1-one;
 5-(R)-1-Aza-bicyclo[2.2.2]oct-3-yl-2-bromo-5,6-dihydro-furo[2,3-*c*]pyrrol-4-one;
 5-(R)-1-Aza-bicyclo[2.2.2]oct-3-yl-2-phenyl-5,6-dihydro-furo[2,3-*c*]pyrrol-4-one;
 5-(R)-1-Aza-bicyclo[2.2.2]oct-3-yl-2-pyridin-3-yl-5,6-dihydro-furo[2,3-*c*]pyrrol-4-one;
 5-(R)-1-Aza-bicyclo[2.2.2]oct-3-yl-2-pyridin-4-yl-5,6-dihydro-furo[2,3-*c*]pyrrol-4-one;
 2-(R)-1-Aza-bicyclo[2.2.2]oct-3-yl-6-(3-chloro-phenyl)-2,3-dihydro-isoindol-1-one;
 2-(R)-1-Aza-bicyclo[2.2.2]oct-3-yl-6-(4-chloro-phenyl)-2,3-dihydro-isoindol-1-one;
 2-(R)-1-Aza-bicyclo[2.2.2]oct-3-yl-6-quinolin-8-yl-2,3-dihydro-isoindol-1-one;
 2-(R)-1-Aza-bicyclo[2.2.2]oct-3-yl-6-benzo[1,3]dioxol-5-yl-2,3-dihydro-isoindol-1-one;
 2-(R)-1-Aza-bicyclo[2.2.2]oct-3-yl-6-(2-chloro-phenyl)-2,3-dihydro-isoindol-1-one;
 2-(R)-1-Aza-bicyclo[2.2.2]oct-3-yl-6-(2-methoxy-phenyl)-2,3-dihydro-isoindol-1-one;
 N-[3-((R)-2-1-Aza-bicyclo[2.2.2]oct-3-yl-3-oxo-2,3-dihydro-1H-isoindol-5-yl)-phenyl]-
 acetamide;
 2-(R)-1-Aza-bicyclo[2.2.2]oct-3-yl-6-morpholin-4-yl-2,3-dihydro-isoindol-1-one, [[or]]
 4-((R)-2-1-Aza-bicyclo[2.2.2]oct-3-yl-3-oxo-2,3-dihydro-1H-isoindol-5-yl)-N,N-dimethyl-
 benzamide; or
a pharmaceutically acceptable salt thereof.

8.(previously presented) A compound according to Claim 1, wherein one or more of the atoms is a radioisotope of the same atom.

9. (currently amended) A compound according to Claim [[1]]3 or 4, additionally comprising one or more atoms selected from tritium, ¹⁸F, ¹²³I, ¹²⁵I, ¹³¹I, ⁷⁵Br, ⁷⁶Br, ⁷⁷Br or ⁸²Br.

10. (canceled)

11.(original) A ~~[[The]]~~ method of treatment ~~or prophylaxis according to Claim 10, wherein the disorder is of~~ anxiety, schizophrenia, mania or manic depression comprising administering a therapeutically-effective amount of a compound according to Claim 3 or 4 to a subject suffering from said disease or condition.

12.(canceled)

13.(currently amended) ~~[[The]]~~ A method of treatment ~~or prophylaxis according to Claim 12, wherein the disorder is of~~ Alzheimer's disease, learning deficit, cognition deficit, attention deficit, memory loss, or Attention Deficit Hyperactivity Disorder comprising administering a therapeutically effective amount of a compound according to Claim 3 or 4 to a subject suffering from said disease or condition.

14.(original) A ~~[[The]]~~ method of treatment ~~or prophylaxis according to Claim 12, wherein the disorder is of~~ Parkinson's disease, Huntington's disease, Tourette's syndrome, or neurodegenerative disorders in which there is loss of cholinergic synapses.

15.(currently amended) A method of treatment ~~or prophylaxis~~ of jetlag, nicotine addiction, craving, pain, and for ulcerative colitis, which comprises administering a therapeutically effective amount of a compound according to Claim ~~[[1]]~~3 or 4.

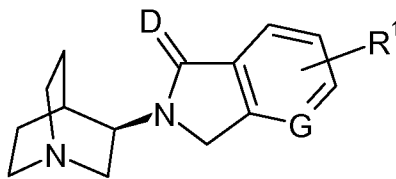
16.(currently amended) A method for inducing the cessation of smoking which comprises administering an effective amount of a compound according to Claim ~~[[1]]~~3 or 4.

17.(currently amended) A pharmaceutical composition comprising a compound according to Claim ~~[[1]]~~3 or 4 and a pharmaceutically-acceptable diluent, lubricant or carrier.

18.(canceled)

19. (New) A compound according to claim 4, wherein:

said compound is an R-stereoisomer in accord with formula V,



V,

or pharmaceutically-acceptable salt thereof.